

Patent Abstracts of Japan

PUBLICATION NUMBER : 11204022  
PUBLICATION DATE : 30-07-99

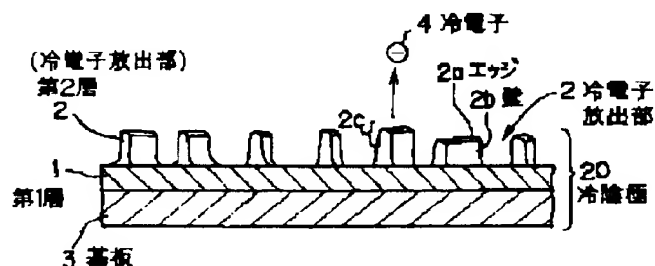
APPLICATION DATE : 07-01-98  
APPLICATION NUMBER : 10001680

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INT.CL. : H01J 1/30 H01J 9/02

TITLE : COLD CATHODE AND ELEMENT  
USING SAME



ABSTRACT : PROBLEM TO BE SOLVED: To allow an application to a display or the like by forming a cold electron emission part without using a micro machining technology for reducing the production cost, sufficiently increasing the density and homogeneity of a cold electron emission point for improving quality, preventing deterioration due to impurities, eliminating tip evaporation of a material and increasing a heat releasing function for improving durability, and lowering operating voltage and power consumption.

SOLUTION: A film (first layer 1 and second layer 2) made of carbon material such as carbon, graphite, amorphous carbon, DLC(diamond-like carbon) or diamond is formed on a substrate 3, thereby forming a projected cold electron emission part 2. In this case, cold electrons 4 are emitted from the tip 2c of the projected cold electron emission part 2.

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